LEGEND

| | EXISTING | PROPOSED |
|---------------------------|------------------------------------|---|
| PROPERTY LINE | | |
| ABUTTER LINE | | |
| ZONING SETBACK LINE | | |
| SOIL EVALUATION | SE-## | |
| SAWCUT LIMIT | | <u> </u> |
| LIMIT OF DISTURBANCE | | —— —— LOD— ——— LOD—— |
| EDGE OF PAVEMENT | | |
| BACK OF BERM | | |
| BUILDING FENCELINE | | |
| STONE WALL | XX | |
| RETAINING WALL | | -00000000000000000000000000000000000000 |
| CONTOUR LINE | | |
| SPOT GRADE | - — — - <i>##</i> - — — - ×##.# | (##) |
| UTILITY POLE | ^ππ·π -O- | ^ππ·π |
| WATER MAIN | W | w |
| WATER GATE VALVE | ₩̈́ | ₩̈́ |
| WATER CURB STOP | *50 | ** |
| HYDRANT | 7 | ** |
| SEWER MAIN | S | |
| SEWER MANHOLE | S | • |
| DRAIN PIPE (≤18"ø) | D | D |
| DRAIN PIPE (>18"ø) | | |
| DRAIN MANHOLE | 6 | • |
| DRAIN INLET (CATCH BASIN) | | |
| GAS MAIN | G | |
| GAS GATE VALVE | \bowtie | \bowtie |

ABBREVIATIONS

APPROX **APPROXIMATE** BIT BITUMINOUS BOW CB CATCH BASIN

BOTTOM OF WALL REVEAL FINISH GRADE (ACTUAL BASE OF WALL WILL BE LOWER THAN SURFACE ELEVATION)

CEM CEMENT

CF CUBIC FEET **CFS** CUBIC FEET PER SECOND

CL CENTERLINE

CL## PRESSURE RATING CLASS **CLDI** CEMENT-LINED DUCTILE IRON

CONC CONCRETE

CPP CORRUGATED PLASTIC PIPE

CY CUBIC YARD DOUBLE-GRATE DRAIN MANHOLE **DVWY** DRIVEWAY **ELEV ELEVATION** EX **EXISTING**

ESHGWT ESTIMATED SEASONAL HIGH GROUNDWATER TABLE

GWT GROUNDWATER TABLE

HDPE HIGH-DENSITY POLYETHYLENE

HMA HOT MIX ASPHALT INV INVERT

LENGTH

LOD LIMIT OF DISTURBANCE LT

LEFT MAX MAXIMUM

MCU MODULAR CONCRETE UNIT

MIN MINIMUM

PROP PROPOSED

PVC POLY-VINYL CHLORIDE

PSI POUNDS PER SQUARE INCH (PRESSURE RATING)

PC POINT OF CURVATURE PT POINT/POINT OF TANGENCY

PVI POINT OF VERTICAL INFLECTION

R&D REMOVE & DISPOSE

R&R REMOVE & RESET

R&S REMOVE & STOCKPILE/SALVAGE

RCP REINFORCED CONCRETE PIPE RT RIGHT

SCH SCHEDULE (PIPES)

SDR STANDARD DIMENSION RATIO (PIPES)

SDWK SIDEWALK

SOIL EROSION & SEDIMENTATION CONTROL

SEV SOIL EVALUATION SF SQUARE FEET

SG SINGLE-GRATE SMH SEWER MANHOLE SS STAINLESS STEEL STA STATION SY SQUARE YARD

TH TEST HOLE TOW TOP OF WALL **VERT** VERTICAL WIDTH WF WETLAND FLAG **WLKWY** WALKWAY WQ WATER QUALITY YR YEAR FEET

INCHES

VERTICAL FEET/HORIZONTAL FOOT

GENERAL NOTES:

- THESE PLANS HAVE BEEN ISSUED FOR LOCAL AND/OR STATE AGENCY REVIEW. ONLY PLANS STAMPED 'ISSUED FOR CONSTRUCTION' AFTER RECEIPT OF ALL LOCAL AND STATE APPROVALS SHALL BE USED FOR CONSTRUCTION
- 2. SPECIFICATIONS & DETAILS GOVERNING THIS PROJECT ARE THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2013 EDITION & CITY OF CRANSTON SUBDIVISION & LAND DEVELOPMENT STANDARDS. THE CITY'S STANDARDS SHALL OVERRIDE RIDOT STANDARDS OUTSIDE OF STATE R.O.W.'S.
- 3. THE CONTRACTOR SHALL READ AND FAMILIARIZE ITSELF WITH THE CITY'S SUBDIVISION & LAND DEVELOPMENT REGULATIONS (AS THEY PERTAIN TO CONSTRUCTION) PRIOR TO
- CONSTRUCTION. 4. THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED SITE IMPROVEMENTS AND DRAINAGE SYSTEM IN ACCORDANCE WITH THE CITY'S SPECIFICATIONS FOR CONSTRUCTION OF REQUIRED IMPROVEMENTS, AS SPECIFIED IN THE CITY'S SUBDIMISION & LAND DEVELOPMENT
- REGULATIONS. 5. ANY REQUIRED AUTHORIZATION/PERMITS TO PERFORM WORK NOT PREVIOUSLY SECURED & Provided by the owner shall be obtained by the contractor prior to the start OF CONSTRUCTION: THE CONTRACTOR SHALL ADHERE TO THE TERMS, CONDITIONS AND
- REQUIREMENTS OF ALL STATE & LOCAL PERMITS ISSUED FOR THE PROJECT. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY CONSTRUCTION OPERATIONS, INCLUDING ALL ACTIONS OR OMISSIONS OF ANY SUBCONTRACTORS, AGENTS OR EMPLOYEES. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL ASPECTS OF ON-SITE SAFETY, INCLUDING ANY DAMAGE TO EXISTING STRUCTURES.
- 7. ALL ELEVATIONS ON SUBJECT PROPERTY ARE BASED ON NAVD88 DATUM, AND HAVE A POTENTIAL VERTICAL VARIANCE OF 1± FEET.
- 8. NO EXISTING DRAINAGE STRUCTURE OR FACILITY SHALL BE ALTERED OR DISTURBED UNLESS SPECIFICALLY INDICATED ON THESE DRAWINGS. ANY DAMAGE TO EXISTING UTILITIES SHALL
- BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR. 9. ALL DISTURBED AREAS/STRUCTURES SHALL BE REPLACED IN-KIND, UNLESS OTHERWISE SHOWN OR AUTHORIZED BY THE OWNER AND/OR CITY.
- 10. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS. AND SHALL INSPECT THE SITE. ANY CHANGES TO THE PROJECT, OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED, SHALL BE REVIEWED BY, AND MUST BE ACCEPTABLE TO, THE ENGINEER.
- 11. THE ABSENCE OF PARTICULAR DETAILS OR SPECIFICATIONS FOR WORK CALLED FOR ON THE PLANS SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THE
- 12. ALL CONSTRUCTION IS SUBJECT TO THE INSPECTION OF AND APPROVAL BY THE OWNER AND/OR CITY. PROPER NOTIFICATION SHALL BE GIVEN PRIOR TO THE COMMENCEMENT OF
- ANY WORK, AND NO WORK SHALL PROCEED WITHOUT THE AUTHORIZATION OF THE CITY. 13. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED LIMIT OF DISTURBANCE SHALL BE LOCATED AND FIELD-DELINEATED BY A RI PLS; NO CLEARING OR DISTURBANCE SHALL TAKE PLACE OUTSIDE THE ESTABLISHED LIMIT AT ANY POINT DURING CONSTRUCTION, UNLESS
- EXPLICITLY AUTHORIZED BY THE CITY. 14. PRIOR TO THE START OF EARTH-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL SEDIMENT & SOIL EROSION CONTROL (SESC) DEVICES IN ACCORDANCE WITH RIDEM &
- CITY STANDARDS 15. COMMUNICATION LINES (ELECTRIC, TELEPHONE, AND CABLE TV) SHALL BE INSTALLED UNDERGROUND, UNLESS OVERHEAD SERVICE IS APPROVED BY THE CITY.
- 16. ALL ROOT SYSTEMS, TREES, STUMPS, BUSHES, BOULDERS AND OTHER UNSUITABLE MATERIAL SHALL BE REMOVED AND TRANSPORTED AWAY FROM THE PROJECT SITE, UNLESS ON-SITE DISPOSAL AT AN APPROPRIATE LOCATION (OR LOCATIONS) IS APPROVED BY THE
- 17. MANHOLE AND CATCH BASIN FRAME & COVERS SHALL BE ADJUSTED TO FINISH GRADE WITH RED BRICK AND MORTAR. OTHER TYPES OF BRICK AND/OR PRECAST CONCRETE RINGS ARE NOT ACCEPTABLE. GRATES SHALL BE SET 0.1 FEET BELOW ROAD GRADE. MANHOLES SHALL CONSTRUCTED SO AT LEAST ONE COURSE OF BRICKS IS BENEATH THE FRAME.
- 18. ALL MANHOLE AND CATCH BASIN FRAME & COVERS SHALL BE ADJUSTED TO THE FIRST COURSE OF PAVEMENT. THE FRAME AND COVERS SHALL BE RE—ADJUSTED IMMEDIATELY PRIOR TO PLACEMENT OF THE SECOND COURSE OF PAVEMENT.
- 19. ALL HDPE PIPE SHALL BE ADS N-12 INTEGRAL BELL WATER-TIGHT PIPE OR APPROVED

EXISTING CONDITIONS/UTILITIES NOTES:

- 1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES. BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH 'DIG SAFE'. NO DRAINAGE STRUCTURE OR FACILITY SHALL BE DISTURBED WITHOUT PROPER PERMITS UNLESS SPECIFICALLY INDICATED ON THESE DRAWINGS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 2. ALL EXISTING UTILITIES HAVE BEEN PLOTTED BASED UPON THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION AND REPRESENT APPROXIMATE LOCATIONS. SOME OBSTRUCTIONS, OBSTACLES, OR DIFFICULTIES IN THE PATH OF THE WORK, EITHER ANTICIPATED OR DISCOVERED IN THE PERFORMANCE OF THE WORK, MAY NOT HAVE BEEN INDICATED BY DRAWINGS. THE CONTRACTOR SHALL BE UNDERSTOOD TO HAVE ENTERED INTO THE CONTRACT WITH FULL KNOWLEDGE THAT IN ANY WORK INVOLVING EXCAVATION OPERATIONS IN PUBLIC HIGHWAYS OR ADJACENT TO OTHER DEVELOPMENTS, SOME UNFORESEEN OBSTACLES, DIFFICULTIES, SOIL OR GROUND WATER CONDITIONS, ETC., MAY BE ENCOUNTERED, AND THAT THE CONTRACTOR HAS INCLUDED IN HIS BID AND CONTRACT OBLIGATIONS THE ASSUMPTIONS OF THE RISKS AND COSTS TO WHICH SUCH OBSTACLES,
- ETC. MAY SUBJECT HIM/HER. 3. THE LOCATION OF EXISTING UNDERGROUND PIPES, CONDUITS, AND STRUCTURES AS SHOWN HAS BEEN COLLECTED FROM THE BEST AVAILABLE SOURCES, AND THE OWNER, TOGETHER WITH HIS AGENTS, DOES NOT IMPLY OR GUARANTEE THE DATA AND INFORMATION IN CONNECTION WITH UNDERGROUND PIPES, CONDUITS, STRUCTURES, AND SUCH OTHER PARTS, AS TO THEIR COMPLETENESS, NOR THEIR LOCATIONS AS INDICATED. THE CONTRACTOR SHALL ASSUME THAT THERE ARE EXISTING WATER, GAS AND OTHER UTILITY CONNECTIONS IN ROUTE, WHETHER THEY APPEAR ON THE DRAWINGS OR NOT. ANY EXPENSE AND/OR DELAY OCCASIONED BY UTILITIES AND STRUCTURES OR DAMAGE THERETO, INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE
- CONTRACTOR, AT NO ADDITIONAL EXPENSE TO THE OWNER. 4. BEFORE PROCEEDING WITH CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL MAKE SUCH SUPPLEMENTAL INVESTIGATIONS, INCLUDING EXPLORATORY EXCAVATIONS BY HAND DIGGING, AS DEEMED NECESSARY TO UNCOVER AND DETERMINE THE EXACT LOCATIONS OF UTILITIES AND STRUCTURES AND SHALL HAVE NO CLAIMS FOR DAMAGES DUE TO ENCOUNTERING SUBSURFACE STRUCTURES OR UTILITIES IN LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS, OR WHICH ARE MADE KNOWN TO THE CONTRACTOR PRIOR TO CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ALL DAMAGES TO EXISTING UTILITIES AND STRUCTURES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A RI PROFESSIONAL LAND SURVEYOR TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING AND PROPOSED UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION, ANY ITEM FOUND WHICH DOES NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW.
- 6. ANY DAMAGE TO EXISTING PAVEMENT, BRIDGES, CONDUIT, SIDEWALK, FENCES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER/STATE/CITY.
- 7. WHENEVER IT MAY BE NECESSARY TO CROSS OR INTERFERE WITH EXISTING CULVERTS, DRAINS, SEWERS, WATER PIPES, FIXTURES, GUARDRAILS, FENCES, GAS PIPES, OR OTHER STRUCTURES NEEDING SPECIAL CARE, DUE NOTICE SHALL BE GIVEN TO THE OWNER. WHENEVER REQUIRED, ALL OBJECTS SHALL BE STRENGTHENED TO MEET ANY ADDITIONAL STRESS THAT THE WORK HEREIN SPECIFIED MAY IMPOSE UPON IT, AND ANY DAMAGE CAUSED SHALL BE THOROUGHLY REPAIRED. THE ENTIRE WORK SHALL BE PERFORMED AT NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BROKEN MAINS OR UTILITIES ENCOUNTERED DURING THE PROGRESS OF THE WORK AND SHALL REPAIR AND BE RESPONSIBLE FOR CORRECTING ALL DAMAGES TO EXISTING UTILITIES, STRUCTURES AND PERSONAL "PROPERTY" WHICH MAY HAVE BEEN CAUSED BY BROKEN LINES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL CONTACT THE PROPER UTILITY OR AUTHORITY TO CORRECT OR MAKE ANY CHANGES DUE TO UTILITIES OR OTHER OBSTRUCTIONS DURING CONSTRUCTION, BUT THE ENTIRE RESPONSIBILITY AND EXPENSE SHALL BE WITH THE CONTRACTOR. ALL DAMAGED ITEMS OF WORK OR ITEMS REQUIRED TO BE REMOVED AND REPLACED DUE TO CONSTRUCTION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE OWNER, AND AT NO ADDITIONAL EXPENSE TO THE OWNER.

SUBSURFACE CONDITIONS NOTES:

- 1. ALL SOIL AND TEST HOLE DATA, WATER TABLE ELEVATIONS, AND SOIL ANALYSIS SHOWN/REFERENCED ON THE DRAWINGS OR INCLUDED IN THE SPECIFICATIONS APPLY ONLY AT THE LOCATION OF THE TEST HOLES AND TO THE DEPTHS INDICATED. SOIL TEST REPORTS ARE AVAILABLE FOR INSPECTION AT THE OFFICE OF THE DESIGN ENGINEER. ANY ADDITIONAL SUBSURFACE EXPLORATION SHALL BE DONE BY THE CONTRACTOR AT THEIR OWN EXPENSE. IT IS UNDERSTOOD THAT THE MAKING OF THE DEDUCTIONS. INTERPRETATIONS AND CONCLUSIONS FROM ALL THE ACCESSIBLE FACTUAL INFORMATION, INCLUDING THE NATURE OF THE MATERIALS TO BE EXCAVATED, THE DIFFICULTIES OF MAKING AND MAINTAINING THE REQUIRED EXCAVATIONS. AND THE DIFFICULTIES OF DOING OTHER WORK AFFECTED BY THE GEOLOGY AND OTHER SUBSURFACE CONDITIONS AT THE SITE OF THE WORK, ARE THE CONTRACTOR'S SOLE RESPONSIBILITY.
- THE INDICATED ELEVATION OF THE WATER TABLE IS THAT EXISTING AT THE DATE THE TEST HOLE DATA WAS DETERMINED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND ALLOW FOR THE ELEVATION OF GROUNDWATER AT THE DATE OF PROJECT CONSTRUCTION. A DIFFERENCE IN ELEVATION BETWEEN GROUNDWATER SHOWN IN SOIL LOGS AND GROUNDWATER ACTUALLY ENCOUNTERED DURING CONSTRUCTION WILL NOT BE CONSIDERED AS A BASIS FOR EXTRA WORK.
- 3. ESTIMATED SEASONAL HIGH WATER TABLES ARE FOR CONSTRUCTION OF ON-SITE STORMWATER MANAGEMENT SYSTEMS ONLY, AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE, ESTIMATED SEASONAL HIGH WATER TABLES MAY BE EXCEEDED PERIODICALLY.

CONSTRUCTION NOTES:

- OWNER SHALL RETAIN THE SERVICES OF A RHODE ISLAND PROFESSIONAL ENGINEER TO REVIEW AND APPROVE SHOP DRAWINGS, SAMPLES, AND OTHER SUBMITTALS OF THE CONTRACTOR FOR CONFORMANCE WITH THE DESIGN CONCEPT (THIS PLAN SET) AND CITY REGULATIONS, WHICH INCLUDE (BUT ARE NOT LIMITED TO) THE FOLLOWING:
- A. DRAINAGE SYSTEM SHOP DRAWINGS/SKETCHES FOR PIPE, PIPE JOINTS, PIPE BEDDING/BACKFILL MATERIALS (SIEVE ANALYSIS, ETC.), COMPACTION METHODS, MANHOLE STRUCTURES, FRAME & COVERS, FRAME & GRATES, FRAME & COVER ADJUSTMENT METHODS TO FINISH GRADE, PROPOSED RIM ELEVATIONS, PIPE INVERTS AND PIPE DIAMETERS. ANY SUBSTANTIAL CHANGES TO THE DESIGN CONCEPT SHALL BE BROUGHT TO THE CITY'S ATTENTION.
- B. ROADWAY CONSTRUCTION SHOP DRAWINGS/SKETCHES FOR GRAVEL BASE MATERIALS, BITUMINOUS CONCRETE COURSES, SIGNAGE/STRIPING, RETAINING WALLS AND CURBING/BERMS.
- C. SOIL EROSION CONTROL AND DEWATERING METHODS.
- D. COMPACTION METHODS FOR INSTALLING PIPE/MANHOLES, GRAVEL ROAD BASE AND
- BITUMINOUS CONCRETE COURSES. TESTING METHODS AND TESTING FREQUENCY FOR DRAINAGE AND ROAD SYSTEMS. TESTING FREQUENCY SHALL BE IN ACCORDANCE WITH RIDOT AND TYPICAL ENGINEERING STANDARDS.
- 2. THE SHOP DRAWING SUBMITTAL PACKAGE SHALL BE STAMPED BY A RHODE ISLAND PROFESSIONAL ENGINEER AND SUBMITTED TO THE CITY/CITY ENGINEER FOR REVIEW AND APPROVAL. SHOP DRAWING RECORDS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT, INCLUDING THE WARRANTY PERIOD.
- 3. MARKED-UP CONSTRUCTION DRAWINGS SHALL BE MAINTAINED AND KEPT AT THE JOB SITE FOR THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL PREPARE AND SUBMIT AS-BUILT DRAWINGS IN ACCORDANCE WITH CITY REGULATIONS; AS-BUILTS SHALL BE STAMPED BY A R.I. PROFESSIONAL LAND SURVEYOR AND R.I. PROFESSIONAL ENGINEER.
- PRIOR TO ACCEPTANCE OF INFRASTRUCTURE, A RI P.E. SHALL CERTIFY THE INFRASTRUCTURE WAS INSTALLED IN ACCORDANCE WITH THE DESIGN INTENT AND MEETS RIDOT/CITY STANDARDS & PERMIT STIPULATIONS, AND IS READY FOR USE.

MAINTENANCE AND PROTECTION OF TRAFFIC

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC DURING CONSTRUCTION, INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE MAY 2012 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), INCLUDING ALL SUBSEQUENT REVISIONS
- 2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN THE STREET
- RIGHT-OF-WAYS UNLESS EXPLICITLY AUTHORIZED BY THE OWNER. 4. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

EARTHWORK NOTES:

- 1. SPECIFICATIONS & DETAILS TO GOVERN THIS PROJECT ARE THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION - AUGUST 2013 EDITION (INCLUDING ALL SUBSEQUENT ADDENDA) AS WELL AS CITY STANDARDS; WHERE APPLICABLE, THE CITY'S STANDARDS SHALL OVERRIDE RIDOT STANDARDS.
- RIDOT STANDARDS ARE AVAILABLE FOR DOWNLOAD FROM THE RIDOT WEBSITE UNDER 'STANDARDS AND SPECIFICATIONS' (WWW.DOT.STATE.RI.US/ENGINEERING/STANDARDS/INDEX.ASP). CITY STANDARDS ARE
- AVAILABLE FOR DOWNLOAD FROM THE CITY OF CRANSTON WEBSITE EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE A MINIMUM 4" OF TOPSOIL AND GRASS SEED, UNLESS OTHERWISE NOTED
- 4. ALL EXCAVATION AND PLACEMENT OF FILL SHALL BE IN ACCORDANCE WITH R.I.D.O.T. STANDARD SPECIFICATIONS SECTION 202 AND CITY OF CRANSTON SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. ALL MATERIALS AND METHODS SHALL BE PERFORMED IN ACCORDANCE WITH THESE STANDARDS AND SPECIFICATIONS. ALL FILL BENEATH PAVEMENTS SHALL BE GRAVEL AS DEFINED IN THE RIDOT SPECIFICATIONS.
- 5. ALL AREAS COMPACTED BY CONSTRUCTION ACTIVITIES (OTHER THAN ROADWAYS AND BENEATH STRUCTURES) SHALL BE RESTORED TO PROMOTE INFILTRATION BY TILLING THE TOP 12 INCHES OF SOIL PRIOR TO FINAL STABILIZATION. 6. ALL UNSUITABLE MATERIAL (LOAM, SUBSOIL, ROOTS, TREE TRUNKS, CLAY, SILT, ORGANIC
- MATTER, LARGE STONES, ETC.) SHALL BE REMOVED FROM HARDSCAPE AREA (PAVEMENT, SIDEWALKS, WALKWAYS) SUB-GRADES AND EMBANKMENT AREAS PRIOR TO THE PLACEMENT OF THE GRAVEL SUBBASE/BERM MATERIAL, AS DIRECTED AND APPROVED. SUITABLE SURPLUS MATERIAL GENERATED BY EXCAVATIONS WITHIN THE PROJECT AREA (SAND, GRAVEL, LOAM, ETC.) SHALL BE RE-USED, TO THE EXTENT POSSIBLE, IN OTHER LOCATIONS WITHIN THE PROJECT AREA: MINING OF SITE MATERIALS (I.E. REMOVAL OF

SUITABLE IN-SITU MATERIALS FROM THE SITE AND REPLACEMENT WITH IMPORTED BORROW

GROUNDWATER REMOVAL & PROTECTION FROM FLOODING NOTES:

MATERIALS) SHALL NOT BE PERMITTED.

- SOME EXCAVATIONS FOR PIPELINES, STRUCTURES, AND APPURTENANT WORK REQUIRED
- MAY OCCUR BELOW EXISTING GROUNDWATER LEVELS. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL PUMPS, DRAINS, WELL POINTS AND/OR ANY OTHER FACILITIES FOR THE CONTROL, COLLECTION, AND DISPOSAL OF GROUNDWATER OR SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK, AND SHALL PROVIDE ALL PUMPS, PIPING, AND DITCHING FOR THE REMOVAL OF WATER FROM THE TRENCHES AND EXCAVATIONS SO THAT ALL TRENCHES AND EXCAVATIONS MAY BE KEPT FREE FROM WATER AT ALL TIMES, AND SO
- THAT THE WORK MAY BE PERFORMED IN THE DRY. DEWATERING OF EXCAVATIONS SHALL BE ACCOMPLISHED BY METHODS THAT HAVE BEEN APPROVED PRIOR TO COMMENCEMENT OF WORK BY THE ENGINEER, AND WHICH HAVE A BACKGROUND OF SUCCESSFUL DEWATERING OF EXCAVATIONS OF THE TYPE TO BE EMPLOYED FOR THE WORK.
- PUMPING SHALL BE CONTINUOUS WHERE DIRECTED AND/OR AS NECESSARY TO PROTECT THE WORK, AND TO MAINTAIN SATISFACTORY PROGRESS OF SAME.
- THE CONTRACTOR'S DEWATERING AND PUMPING OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT NO LOSS OF GROUND WILL RESULT FROM THESE OPERATIONS. ANY DAMAGE TO EXISTING FEATURES OR TO THE CONTRACT WORK RESULTING FROM THE CONTRACTOR'S DEWATERING OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR, AS DIRECTED BY THE OWNER, AT NO ADDITIONAL EXPENSE TO THE OWNER, PRECAUTIONS SHALL BE TAKEN TO PROTECT NEW AND EXISTING WORK FROM FLOODING OR DAMAGE
- DURING STORMS OR OTHER CAUSES. ALL PIPELINES OR STRUCTURES NOT STABLE AGAINST UPLIFT DURING CONSTRUCTION OR PRIOR TO COMPLETION SHALL BE THOROUGHLY BRACED OR OTHERWISE PROTECTED.
- WATER FROM THE TRENCHES, EXCAVATIONS, AND DRAINAGE OPERATIONS SHALL BE DISPOSED OF IN SUCH A MANNER AS WILL CAUSE NEITHER INJURY TO PUBLIC HEALTH OR PRIVATE PROPERTY, NOR DAMAGE TO THE WORK COMPLETED OR IN PROGRESS. THE CONTRACTOR SHALL CONSTRUCT DITCHES. ESTABLISH GRADING, AND PERFORM ANY AND ALL OTHER WORK AS MAY BE NECESSARY TO DIVERT AND PREVENT SURFACE WATER

STORMWATER SYSTEM OPERATION & MAINTENANCE NOTES:

1. INSPECTIONS AND PROPER MAINTENANCE ARE ESSENTIAL FOR THE LONGEVITY OF THE DRAINAGE SYSTEMS. THE DRAINAGE SYSTEM SHALL BE INSPECTED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE (O&M) PLAN PREPARED SPECIFICALLY FOR THIS

AND WATER FROM DEWATERING OPERATIONS FROM ENTERING EXCAVATION AND WORK

- 2. THE CRANSTON PUBLIC SCHOOL DISTRICT (CPSD) SHALL BE RESPONSIBLE FOR ALL SITE STORMWATER STRUCTURES (CATCH BASINS, DRAIN MANHOLES, PIPING, WATER QUALITY
- UNITS, SEDIMENT FOREBAYS & UNDERGROUND CHAMBER SAND FILTERS). PERSONNEL PERFORMING THE MAINTENANCE OF THE STORMWATER SYSTEM, WHETHER IN-HOUSE EMPLOYEES OF THE CPSD OR OUTSIDE CONTRACTORS, SHALL BE PROPERLY TRAINED AND EXPERIENCED WITH THE MAINTENANCE REQUIREMENTS DETAILED IN THE O&M PLAN FOR THIS DEVELOPMENT, AS WELL AS THE 'RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL,' LATEST EDITION (KNOWN AS THE 'MANUAL').

Finegold Alexander Architects

PROJECT TEAM:

Cranston Public Schools 845 Park Ave.

Structural Engineer **ODEH Engineers** 1223 Mineral Spring Ave. N. Providence, RI 02904

Cranston, RI 02910

MEP Engineer Creative Environment Corp. 195 Frances Ave., Bldg #2 Cranston, RI 02910

Fire Protection & Code Jensen Hughes 117 Metro Center Blvd., Suite 1002 Warwick, RI 02886

Technology **DA-Technology** 477 Main St., Suite 210B

Monroe, CT 06468

Civil Engineer Commonwealth Engineers 400 Smith St.

Providence, RI 02909

Landscape Architect **Traverse Landscape Architects** 150 Chestnut St. 4th Fl. Providence, RI 02903

Kitchen Design **Crabtree McGrath** 161 West Main St. Georgetown, MA01833

KEY PLAN:



PROJECT INFORMATION:

P0276.00 PROJECT #: ISSUE DATE: November 18, 2022 PROJECT STATUS: PRE-DD Submission DRAWN BY: MCZ

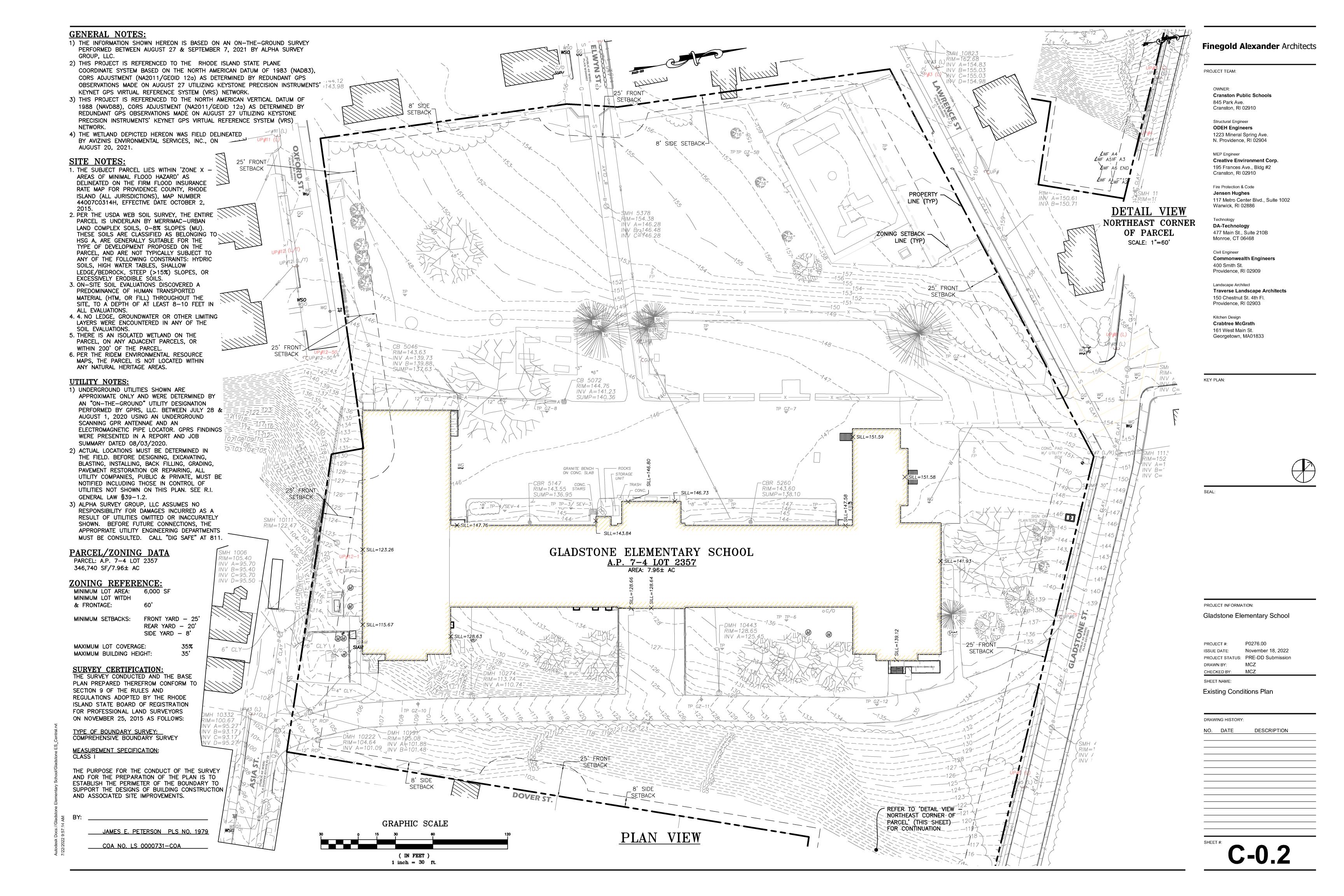
Gladstone Elementary School

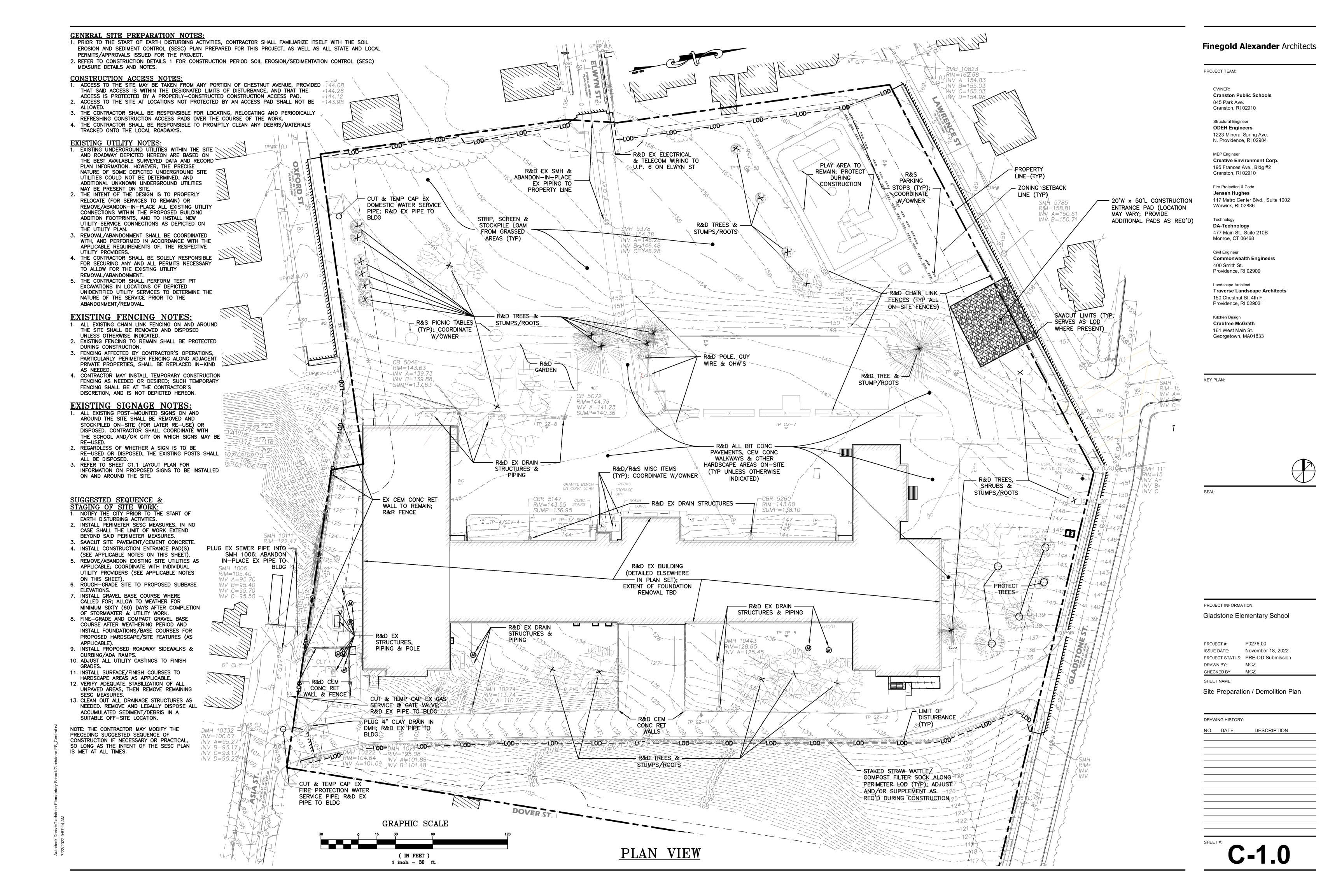
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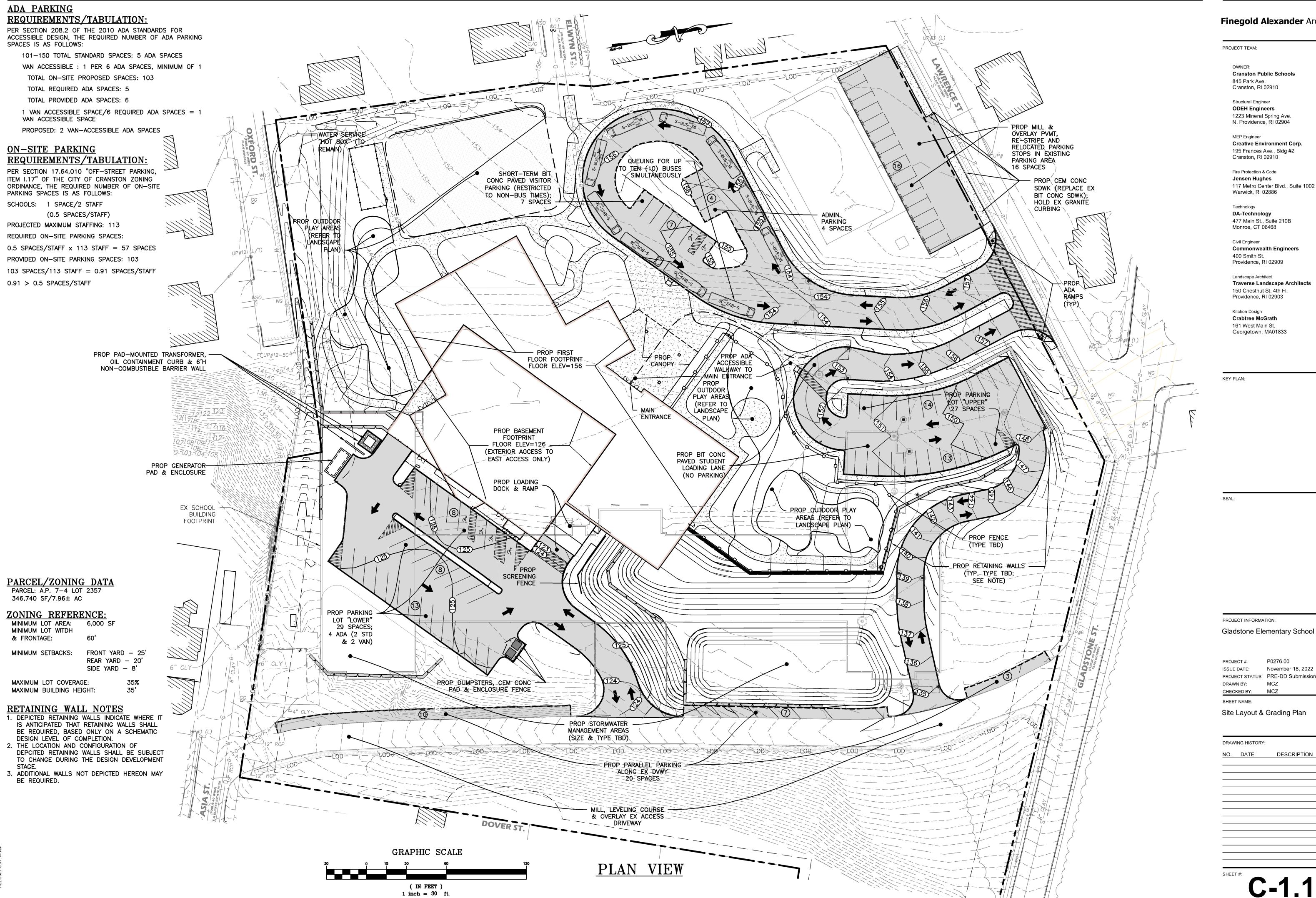
Legend, Notes & Abbreviations

NO. DATE DESCRIPTION

DRAWING HISTORY:







Finegold Alexander Architects

PROJECT TEAM:

Cranston Public Schools

Structural Engineer **ODEH Engineers** 1223 Mineral Spring Ave.

MEP Engineer Creative Environment Corp. 195 Frances Ave., Bldg #2

Fire Protection & Code Jensen Hughes 117 Metro Center Blvd., Suite 1002 Warwick, RI 02886

Technology DA-Technology 477 Main St., Suite 210B Monroe, CT 06468

Civil Engineer Commonwealth Engineers 400 Smith St. Providence, RI 02909

Landscape Architect **Traverse Landscape Architects** 150 Chestnut St. 4th Fl. Providence, RI 02903

Kitchen Design Crabtree McGrath 161 West Main St. Georgetown, MA01833



PROJECT INFORMATION:

P0276.00

November 18, 2022 PROJECT STATUS: PRE-DD Submission MCZ MCZ CHECKED BY:

Site Layout & Grading Plan

NO. DATE DESCRIPTION

STORMWATER MANAGEMENT REQUIREMENTS:

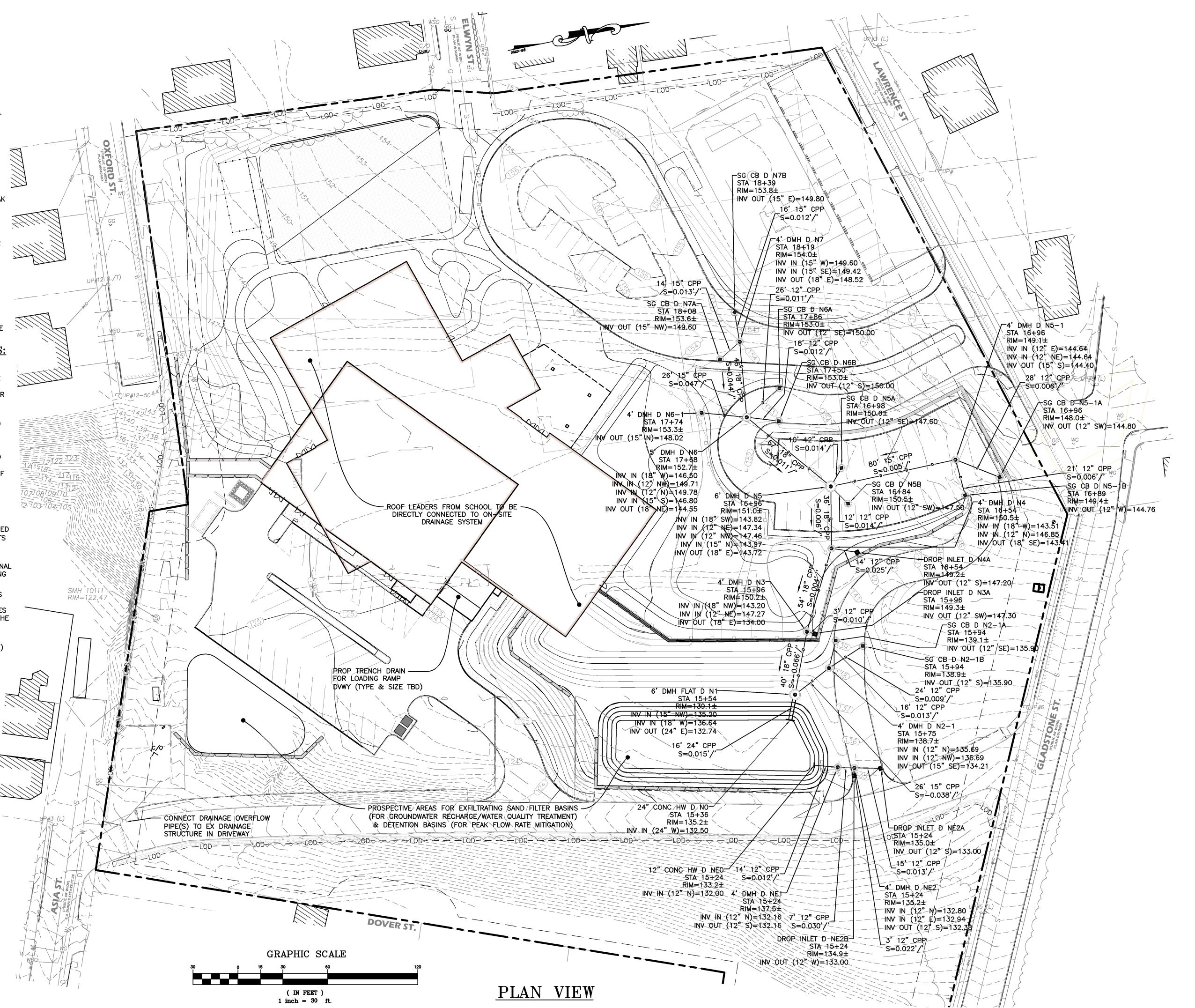
- 1. STORMWATER MANAGEMENT DESIGN SHALL BE IN ACCORDANCE WITH THE RI STORMWATER MANAGEMENT DESIGN AND INSTALLATION RULES (SMDIR), WHICH IS THE CODIFIED VERSION OF THE 2015 RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL (RISDISM). BOTH DOCUMENTS ARE CONSIDERED APPLICABLE TO THE PROJECT
- 2. IN THEN CONTEXT OF THE SMDIR/RISDISM, THIS PROJECT SHALL BE CLASSIFIED AS A "REDEVELOPMENT" PROJECT. REDEVELOPMENT PROJECTS REQUIRE THE PROVISION OF GROUNDWATER RECHARGE (INFILTRATION) AND WATER QUALITY TREATMENT FOR 50% OF EXISTING IMPERIOUS SURFACES AND 100% OF PROPOSED NEW IMPERVIOUS SURFACES. THE SMDIR/RISDISM DO NOT REQUIRE PEAK FLOW RATE MITIGATION FOR REDEVELOPMENT PROJECTS.
- 3. THE CITY OF CRANSTON SUBDIVISION & LAND DEVELOPMENT REGULATIONS DO REQUIRE PEAK FLOW RATE MITIGATION FOR ALL STORMS UP TO AND INCLUDING THE 100-YEAR STORM EVENT.
- 4. TO THE EXTENT POSSIBLE, THE STORMWATER MANAGEMENT DESIGN APPROACH SHALL BE TO PROVIDE ALL NECESSARY STORMWATER TREATMENT AND MITIGATION THROUGH PROPOSED ON-SITE BEST MANAGEMENT PRACTICES (BMP'S), WITH NO NEW DISCHARGES/CONNECTIONS TO THE ADJACENT ROADWAYS OR DRAINAGE

SUBSURFACE MATERIAL NOTES:

- 1. PER THE USDA WEB SOIL SURVEY, THE ENTIRE PARCEL IS UNDERLAIN BY CANTON URBAN LAND COMPLEX SOILS (CB). THESE SOILS ARE CLASSIFIED AS BELONGING TO HSG B, AND ARE GENERALLY SUITABLE FOR INFILTRATING STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (BMP'S).
- 2. SOIL EVALUATIONS HAVE BEEN PERFORMED AT VARIOUS LOCATIONS ON THE SITE TO MORE PRECISELY DETERMINE UNDERLYING SOIL CHARACTERISTICS (SOIL LAYER MATERIALS, CONSISTENCY, THICKNESS) AND ESTIMATED SEASONAL HIGH GROUNDWATER TABLE (ESHGWT) DEPTHS IN THE AREAS OF PROSPECTIVE STORMWATER BMP'S.

SITE DRAINAGE/STORMWATER **BMP NOTES:**

- 1. GENERALLY, ROOF RUNOFF WILL BE CAPTURED AND DIRECTED TO THE PROPOSED STORMWATER BMP'S VIA ROOF DOWNSPOUTS CONNECTED TO SUBSURFACE PIPING.
- 2. SUBSURFACE PIPING LOCATIONS ARE SCHEMATICALLY DEPICTED HEREON; THE FINAL DOWNSPOUT LOCATIONS FROM THE BUILDING ARE T.B.D.
- PROSPECTIVE STORMWATER BMP LOCATIONS HAVE BEEN SCHEMATICALLY DEPICTED HEREON; PROPOSED BMP LOCATIONS, TYPES AND SIZES SHALL BE FINALIZED DURING THE DESIGN DEVELOPMENT STAGE.
- 4. IT IS ANTICIPATED THAT DRAINAGE STRUCTURES (CATCH BASINS & MANHOLES) SHALL BE PRECAST CONCRETE, AND DRAINAGE PIPING SHALL BE WATER-TIGHT HIGH-DENSITY POLYETHYLENE (HDPE) DOUBLE-WALL CORRUGATED PIPE (AKA CORRUGATED PLASTIC PIPE, "CPP"). THIS DOES NOT PRECLUDE THE USE OF OTHER DRAINAGE MATERIALS, AS REQUIRED OR APPROPRIATE.



Finegold Alexander Architects

PROJECT TEAM: OWNER: **Cranston Public Schools** 845 Park Ave. Cranston, RI 02910 Structural Engineer **ODEH Engineers** 1223 Mineral Spring Ave. N. Providence, RI 02904 MEP Engineer Creative Environment Corp. 195 Frances Ave., Bldg #2 Cranston, RI 02910 Fire Protection & Code Jensen Hughes 117 Metro Center Blvd., Suite 1002 Warwick, RI 02886 Technology DA-Technology 477 Main St., Suite 210B Monroe, CT 06468 Civil Engineer **Commonwealth Engineers** 400 Smith St. Providence, RI 02909 Landscape Architect **Traverse Landscape Architects** 150 Chestnut St. 4th Fl. Providence, RI 02903 Kitchen Design **Crabtree McGrath** 161 West Main St. Georgetown, MA01833 KEY PLAN: PROJECT INFORMATION: P0276.00 PROJECT #: ISSUE DATE: MCZ DRAWN BY:

Gladstone Elementary School

November 18, 2022 PROJECT STATUS: PRE-DD Submission MCZ CHECKED BY:

Stormwater Management Plan

SHEET NAME:

DRAWING HISTORY: NO. DATE DESCRIPTION

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KEY PLAN:



SEAL:

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SHEET NAME:
Utility Plan

DRAWING HISTORY:

NO. DATE DESCRIPTION

ET #: